

Claims:

1. A process for the preparing of benzhydrylthioacetamide comprising reacting benzhydrylthiocarboxamidine salt with haloacetamide in a reaction medium comprising water, a water miscible organic solvent and a water soluble basic salt.
2. The process of Claim 1 wherein the basic salt is selected from the group consisting of alkali metal and alkaline earth metal sulfates, sulfides, phosphates, carbonates, bicarbonates, nitrates, phosphonates and phosphinates.
3. The process of Claim 2 wherein the haloacetamide is chloroacetamide.
4. The process of Claim 2 wherein the basic salt is a potassium salt.
5. The process of Claim 4 wherein the basic salt is a potassium carbonate salt.
6. The process of Claim 1 wherein the basic salt is present in a weight ratio to benzhydrylthiocarboxamidine salt of from about 41 to about 200.
7. The process of Claim 6 wherein the basic salt is present in the weight ratio of from about 82 to about 110.
8. The process of Claim 6 wherein the basic salt is present in the weight ratio of about 105.
9. The process of Claim 1 wherein the volume ratio of water miscible organic solvent to water is in the range of from about 9/1 to 1/9 .
10. The process of Claim 9 wherein the volume ratio of water miscible organic solvent to water is in the range of from about 2/1 to 1/1.
11. The process of Claim 9 wherein the volume ratio of water miscible organic solvent to water is about 3/2.
12. The process of Claim 1 wherein the water miscible organic solvent is selected from the group consisting of lower alkanols, acetone and dimethylformamide.
13. The process of Claim 12 wherein the lower alkanol is selected from the group consisting

of methanol, ethanol, butanol, sec-butyl alcohol, tert-butyl alcohol, and acetone.

14. In a process for preparing modafinil comprising the following steps:

reacting benzhydrol with thiourea in the presence of hydrogen bromide to provide benzhydrylthiocarboxamidine bromide;

reacting haloacetamide with the product of step a) to provide benzhydrylthioacetamide;

oxidizing the product of step b) to obtain benzhydrylsulphonylacetamide; and

the improvement which comprises conducting the reaction of step b) in a solvent comprising a water miscible organic solvent, and water in the presence of a basic salt.

15. The process of Claim 14 wherein the basic salt is selected from the group consisting of alkali metal and alkaline earth metal sulfates, sulfides, phosphates, carbonates, bicarbonates, nitrates, phosphonates and phosphinates.

16. The process of Claim 14 wherein the haloacetamide is chloroacetamide

17. The process of Claim 15 wherein the basic salt is a potassium salt.

18. The process of Claim 17 wherein the basic salt is a potassium carbonate salt.

19. The process of Claim 15 wherein the basic salt is present in a weight ratio to benzhydrylthiocarboxamidine salt of from about 41 to about 200.

20. The process of Claim 19 wherein the basic salt is present in the weight ratio of from about 82 to about 110.

21. The process of Claim 20 wherein the basic salt is present in the weight ratio of about 105.

22. The process of Claim 14 wherein the volume ratio of water miscible organic solvent to water is in the range of from about 9/1 to 1/9.

23. The process of Claim 22 wherein the volume ratio of water miscible organic solvent to

water is in the range of from about 2/1 to 1/1.

24. The process of Claim 22 wherein the volume ratio of water miscible organic solvent to water is about 3/2.

25. The process of Claim 14 wherein the water miscible organic solvent is selected from the group consisting of lower alkanols, acetone and dimethylformamide.

26. A process for the purification of modafinil which comprises contacting the crude modafinil with a halo-organic solvent and then separating the modafinil from the solvent.

27. The process of Claim 26 wherein the temperature of the mixture of modafinil and halo-organic solvent is raised to a reflux temperature.

28. The process of Claim 27 wherein the reflux temperature is maintained for about 30 minutes.

29. The process of Claim 26 wherein the halo-organic solvent is selected from the group consisting of chloroform, dichloromethane, and dichloroethane.

30. The process of Claim 26 further including the step of adding an aliphatic solvent to the mixture.

31. The process of Claim 30 wherein an aliphatic solvent is added to modafinil prior to contacting the modafinil with the halo-organic solvent and the temperature of the mixture is raised to the reflux temperature.

32. The process of Claim 31 wherein the reflux temperature is maintained for about 30 minutes.

33. The process of Claim 31 wherein the aliphatic solvent is selected from the group consisting of pentane, hexane, heptane and octane.

34. The process of Claim 30 wherein the halo-organic solvent is chloroform and the aliphatic solvent is heptane.